**Client Server Architecture:-**

It is a centralized network architecture that classifies into two sections i.e. client and server.

A client is requester, which can be a program that we use to make requests through the network with parameters included.

A server is the response provider, which is a program that listens for the client’s requests and respond to it.

Servers are powerful computers or processes dedicated to managing disk drives, printers or network traffic. Whereas clients are Pc or workstations on which users run applications.

Clients rely on servers for resources, such as files, devices and even processing power.

The network allows clients to access remote servers.

Client knows the interface of the server but server does not need to know interface of client.

Use in database Systems:

Front-end: User application (client)

Back-end: Database access and manipulation (server)

Functions performed by Client:-

Customized user Interface

Front-end processing of data

Initiation of server remote procedure calls

Access to database server across the network

Functions performed by the database server:-

Centralized data management

Data integrity and database consistency

Database security

Concurrent operations (multiple user access)

Centralized processing

**Design Goals for client-Server System**

**Service portability**

Server can be installed on a variety of machines and operating systems and functions in a variety of networking environments

**Transparency, Location-Transparency**

The server might itself be distributed, but should provide a single “logical” service to the user.

**Performance**

Client should be customized for interactive display-intensive tasks.

Server should provide CPU-intensive operations.

**Scalability**

Server should have spare capacity to handle larger number of clients.

Update task for data or another resources more efficient and easier to manage.

**Flexibility**

The system should be usable for a variety of user interfaces and end devices.

**Advantages of the client-server model**

**Centralization of control:**

A dedicated server controls to access of resources so that a program or unauthorized client cannot damage the system.

Changes only need to be done on the server and the clients will be able to receive

Network processing is done centrally, not at individual computers, which reduce the burden of the OS.

**Disadvantages of client-server model:**

Single point of failure.

Traffic congestion.

Cost.